

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed April 7, 2008. The Examiner is thanked for the thorough examination of the present application. Upon entry of this response, claims 1-6, 9-19, and 22-26 are pending in the present application. Applicant respectfully requests consideration of the following remarks contained herein. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

I. Response to Claim Rejections Under 35 U.S.C. § 103

The USPTO has the burden under section 103 to establish a *prima facie* case of obviousness according to the factual inquiries expressed in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). The four factual inquiries, also expressed in MPEP §2141, are as follows:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating evidence of secondary considerations.

For a proper rejection of the claim under 35 U.S.C. §103, the cited combination of references must disclose, teach or suggest all elements / features of the claim at issue. See, e.g., *In re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988) and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981).

Claims 1, 2, 9, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, and 26 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Iverson et al.* (U.S. Patent No.

6,052,379, hereinafter "*Iverson*") in view of *Jeffries et al.* (U.S. Patent No. 6,657,960, hereinafter "*Jeffries*"). Furthermore, claims 3-6 and 16-19 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over *Iverson*, in view of *Jeffries*, further in view of *Dunniho* (U.S. Patent No. 6,185,641). For at least the reasons set forth below, Applicant traverses the rejections set forth.

Independent Claims 1 and 14

Applicant respectfully submits that independent claims 1 and 14 patently define over *Iverson* in view of *Jeffries* for at least the reason that the combination fails to disclose, teach or suggest the features emphasized below in the claims below.

Claim 1 recites:

1. A method for allocating a shared resource among a plurality of devices, the method comprising the steps of:
 associating a bucket to each one of the plurality of devices wherein the plurality of devices share a shared resource;
 assigning a fill rate to each bucket where each bucket accrues a predetermined number of credits for each time period the associated device is stalled, wherein each fill rate is different, each fill rate indicating access priority assigned to the associated device;
 assigning a drain rate to each bucket where each bucket drains a predetermined number of credits for each time period the associated device is granted access to the shared resource, wherein each drain rate is different, each drain rate indicating access priority assigned to the associated device;
 determining a grant bucket based on a number of credits for each bucket at a specific time; and
 granting access to the shared resource to the device associated with the grant bucket.

(Emphasis added).

Claim 14 recites:

14. A system for allocating a shared resource among a plurality of devices, the system comprising:

an association module for associating a bucket to each one of the plurality of devices wherein the plurality of devices share a shared resource;

a fill rate module for assigning a fill rate to each bucket where each bucket accrues a predetermined number of credits for each time period the associated device is stalled, wherein each fill rate is different, each fill rate indicating access priority assigned to the associated device;

a drain rate module for assigning a drain rate to each bucket where each bucket drains a predetermined number of credits for each time period the associated device is granted access to the shared resource, wherein each drain rate is different, each drain rate indicating access priority assigned to the associated device;

a grant determination module for determining a grant bucket based on a number of credits for each bucket at a specific time; and

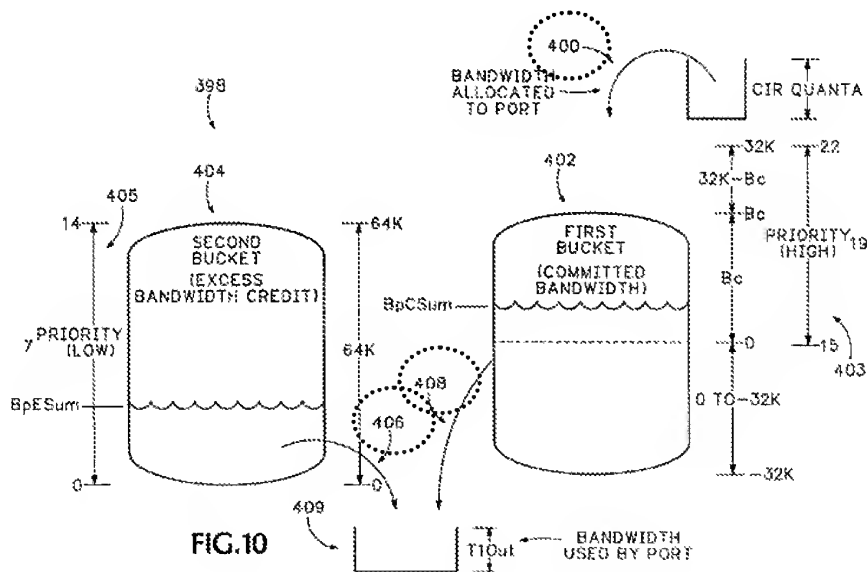
a grant access module for granting access to the shared resource to the device associated with the grant bucket.

(Emphasis added). While the claims are not co-extensive in scope, Applicant requests consideration of the following remarks regarding claims 1 and 14 as the Office Action rejects these claims together.

The Office Action continues to raise substantially the same rejections with respect to the *Iverson* reference. Applicant, however, maintain that the *Iverson* reference fails to disclose certain features in claims 1 and 14. With regards to claim 1, *Iverson* fails to disclose, teach, or suggest **assigning a fill rate to each bucket where each bucket accrues a predetermined number of credits for each time period the associated device is stalled**. With regards to claim 14, *Iverson* fails to disclose, teach, or suggest **a fill rate module for assigning a fill rate to each bucket where each bucket accrues a predetermined number of credits for each time period the associated device is stalled, wherein each fill rate is different, each fill rate**

indicating access priority assigned to the associated device.

With reference to FIG. 10 below, *Iverson* discloses a priority scheme in which two buckets are maintained to track the current bandwidth delivery rate and unused committed bandwidth. The water level in the first bucket represents the current bandwidth delivery rate for the User. The second bucket represents bandwidth accumulated for the User in excess of the CIR and the committed burst bandwidth (B_c). Thus if a User does not use their CIR nor their committed burst bandwidth over a period of time, the User is allowed to accumulate excess bandwidth credit (B_e) up to a configured point. The water level in the second bucket represents the amount of excess bandwidth credit accumulated for the User connection overflowing from the first bucket.



Applicant refers to arrows 400, 406 and 408 in FIG. 10 (circled) and also to the following text in the *Iverson* reference:

FIG. 10 shows a leaky bucket priority scheme 398 when deriving the high priority band value directly from the water level in the first bucket 402. The leaky bucket scheme 398 is evaluated at a predetermined periodic interval. A quantum of bits 400 represents the bandwidth committed by the CIR to

be available to the User 62 (FIG. 3) for the evaluation time interval. Ports referred to below are shown in FIG. 3 as users 62.

(Col. 17, lines 24-32).

In this case, the bandwidth is then taken from the second bucket 404, representing accumulated unused excess bandwidth, until the level, BpESum, is reduced to zero as noted by arrow 406.

If the priority is above the midpoint of the total priority range, the bandwidth is taken from the first bucket 402, as noted in arrow 408, so the port first uses up it's committed burst bandwidth allocation (B_c).

(Col. 18, lines 38-45). While *Iverson* discloses adding a quantum of bits 400 to the first bucket 402 (see FIG. 10), *Iverson* fails to disclose that the second bucket 404 accumulates bandwidth. At most, *Iverson* discloses an accumulated value: “BpESum is the water level value in the second bucket 404 and represents the current accumulated value of unused bandwidth in excess of $CIR+B_c$ (i.e. past overflows from the first bucket 402).” (Emphasis added; Col. 17, line 66 – Col. 18, line 2). This, however, is not equivalent to **assigning a fill rate to each bucket where each bucket accrues a predetermined number of credits** as *Iverson* apparently fails to disclose the second bucket accruing bandwidth. *Iverson* appears to only disclose taking bandwidth from the second bucket while adding a quantum of bits 400 to the first bucket. (Applicant, again, refers the Examiner to the arrows 400, 406, 408 in FIG. 10 above.)

Furthermore, Applicant submits that *Iverson* fails to disclose the limitation **where each bucket accrues a predetermined number of credits for each time period the associated device is stalled**. That is, *Iverson* does not appear to disclose either bucket 402 or bucket 404 accruing a predetermined number of credits “for each time period the associated device is stalled.” On page 3 of the Office Action, the Examiner asserts that “*the excess of bandwidth is caused by the period of inactivity for the time*

the associated device is stalled, 'up to a configured point,' that is accruing a predetermined number of credit.” Applicant respectfully submit that accumulating excess bandwidth “up to a configured point” is not equivalent to accruing a predetermined number of credits for each time period the associated device is stalled. The Examiner apparently reasons that the excess in bandwidth is caused by inactivity by the associated device. *Iverson*, however, does not appear to disclose this. Accordingly, *Iverson* fails to disclose various features recited in claims 1 and 14. Moreover, the secondary *Jeffries* reference fails to address these deficiencies.

Based on at least the foregoing, Applicant respectfully submits that independent claims 1 and 14 patently define over *Iverson* in view of *Jeffries* for at least the reason that the combination fails to disclose, teach or suggest the highlighted features in claims 1 and 14 above. In addition, Applicant submits that dependent claims 2-6, 9-13, 15-19, and 22-26 are allowable for at least the reason that these claims depend from an allowable independent claim. See, e.g., *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

II. New Claims 27-28

Applicant respectfully submit that new claim 27 is patentable for at least the reason that the cited art of record fails to disclose, teach, or suggest ***means assigning a fill rate to each bucket where each bucket accrues a predetermined number of credits for each time period the associated device is stalled, wherein each fill rate is different, each fill rate indicating access priority assigned to the associated device***. In addition, dependent claim 28 is allowable for at least the reason that this claim depends from an allowable independent claim. See, e.g., *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

CONCLUSION

Applicant respectfully submits that all pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephone conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 50-0835.

Respectfully submitted,

/afb/

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